Amendment to the Claims

Please cancel Claims 20-29 to Group II and Claims 36-38 to Group III without prejudice.

Please amend the Claims as follows:

1. (currently amended) A computer implemented method ~~of~~ for managing a database data structure that ~~includes~~ is partitioned into a plurality of sections, each of the sections comprising a plurality of data records, the method comprising:

receiving a new data record and a key that is associated with the new data record;

responsive to said receiving said new data record and said associated key, identifying one of the sections based upon the associated key of the new data record;

responsive to said identifying one of the sections, determining if said new data record fits in an unused storage space on said identified section based on a size of said new data record;

if said new data record fits in said unused storage space, then storing said new data record in said identified section;

if [[a]]said size of said new data record is greater than a size of said unused storage space, then ranking all data records on said identified section according to a computer implemented ranking function;

summing sizes of said all data records below rank of said new data record;

if said sum is not greater than said size of said new data record, then ending process; and

if said sum is greater than said size of said new data record, then deleting one or more data records from the identified section and storing the new data record in the identified section.

2. (canceled)

3. (currently amended) The computer implemented method of Claim 1, wherein the ranking function is a least recently used algorithm.

4. (currently amended) The computer implemented method of Claim 1, wherein the ranking function is a function of the statistical properties of the data being stored.

5. (currently amended) The computer implemented method of Claim 1, wherein each of the plurality of sections is an integer multiple of the page size that is used by an operating system to transfer data between a primary storage and a secondary storage.

6. (currently amended) The computer implemented method of Claim 1, wherein each of the sections is about the same page size that is used by an operating system to transfer data between a primary storage and a secondary storage.

7. (currently amended) The computer implemented method of Claim 1, additionally comprising allocating a contiguous memory space to contain each of the sections.

8. (currently amended) A program storage device storing program instructions that when executed perform the program for managing a database data structure that is partitioned into a plurality of sections, each of the sections comprising a plurality of data records, the program comprising the steps of:

receiving a new data record and a key that is associated with the new data record;

responsive to said receiving said new data record and said associated key, identifying one of the sections based upon the associated key of the new data record;

responsive to said identifying one of the sections, determining if said new data record fits in an unused storage space on said identified section based on a size of said new data record;

if said new data record fits in said unused storage space, then storing said new data record in said identified section;

if [[a]]said size of said new data record is greater than a size of said unused storage space, then ranking all data records on said identified section according to a computer implemented ranking function;

summing sizes of said all data records below rank of said new data record;

if said sum is not greater than said size of said new data record, then ending process; and

if said sum is greater than said size of said new data record, then deleting one or more data records from the identified section and storing the new data record in the identified section.

9. (canceled)

10. (previously presented) The program storage device of Claim 8, wherein the ranking scheme identifies which ones of the data records are the least recently used.

11. (currently amended) The ~~method~~ program storage device of Claim 8, wherein each of the sections is about the same size that is used by an operating system to transfer data between a primary storage and a secondary storage.

12. (currently amended) A database system for managing data records, the system comprising:

a plurality of sections, each of the sections being about the same memory size that is used by an operating system to transfer data between a primary storage and a secondary storage; and

a control program ~~which receives a request for the storage of a data record, the control program selecting one of the sections based upon a key and storing the data record in the selected section;~~

~~wherein the control program:~~

~~determines if said data record fits in an unused space on said selected section;~~

~~if said data record fits in said unused space, then stores said data record in said selected section;~~

~~if a size of said data record is greater than a size of said unused space, then ranks all data records on said selected section according to a ranking function;~~

~~sums sizes of said all data records below rank of said data record;~~

~~if said sum is not greater than said size of said data record, then ends process; and~~

~~if said sum is greater than said size of said data record, then deletes one or more data records from the selected section and stores the data record in the selected section.~~ performing the steps of:

receiving a new data record and a key that is associated with the new data record;

responsive to said receiving said new data record and said associated key, identifying one of the sections based upon the associated key of the new data record;

responsive to said identifying one of the sections, determining if said new data record fits in an unused storage space on said identified section based on a size of said new data record;

if said new data record fits in said unused storage space, then storing said new data record in said identified section;

if said size of said new data record is greater than a size of said unused storage space, then ranking all data records on said identified section according to a computer implemented ranking function;

summing sizes of said all data records below rank of said new data record;

if said sum is not greater than said size of said new data record, then ending process; and

if said sum is greater than said size of said new data record, then deleting one or more data records from the identified section and storing the new data record in the identified section.

13. (canceled)

14. (previously presented) The database system of Claim 12, wherein the ranking function determines a last access time for each of the data records or the selected sections.

15. (original) The database system of Claim 12, wherein at least one of the sections includes at least one item of section information.

16. (original) The database system of Claim 15, wherein the section information includes the number of data records that are contained in the section.

17. (original) The database system of Claim 15, wherein the section information includes an offset from the beginning of the section to the first unused position within the section.

18. (original) The database system of Claim 15, wherein the section information includes a section number that is associated with the section.

19. (original) The database system of Claim 12, additionally comprising a client application which provides the storage request of the data record and the key to the control program.

20-29. (canceled)

30. (currently amended) A system for managing a database that ~~includes~~ is partitioned into a plurality of sections, each of the sections comprising a plurality of data records, the system comprising:

means for receiving one or more new data records, each of the new data records having an associated key;

responsive to said receiving said new data record and said associated key, means for identifying one of the sections based upon the associated key of the new data record;

responsive to said identifying one of the sections, means for determining if said new data record fits in an unused space on said identified section based on a size of said new data record;

if said new data record fits in said unused storage space, then means for storing said new data record in said identified section;

if [[a]]said size of said new data record is greater than a size of said unused storage space, then means for ranking all data records on said identified section according to a computer implemented ranking function;

means for summing sizes of said all data records below rank of said new data record;

if said sum is not greater than said size of said new data record, then means for ending process; and

if said sum is greater than said size of said new data record, then means for deleting one or more data records from said identified section and means for storing said new data record in the identified section.

31. (canceled)

32. (original) The system of Claim 30, wherein the ranking function identifies which ones of the data records that are the least recently used.

33. (original) The system of Claim 30, wherein the database occupies a single contiguous physical memory space.

34. (original) The system of Claim 30, wherein the size of each of the sections is an integer multiple to the page size that is used by an operating system to transfer data between a primary storage and a secondary storage.

35. (original) The system of Claim 30, wherein the size of each of the sections is about equal to the page size that is used by an operating system to transfer data between a primary storage and a secondary storage.

36-38. (canceled)